Electronic Version
Stylesheet Version v1.1.1

Claims

[c1] What is claimed is:

1. A projector comprising:

a housing;

a light source installed in the housing;

a color wheel for separating the light from the light source into color light;

an image modulator for modulating the color light from the color wheel, and projecting the color light to form an image on a screen;

a control circuit connected to the image modulator for controlling the image modulator to operate synchronously with the color wheel; and

a scalar connected to the image modulator for generating a gray-level image signal;

wherein the color light is modulated to form a gray-level image on the screen through a gray-level image signal outputted to the image modulator, and the image modulator is controlled to operate synchronously with the color wheel according to the gray-level image.

[c2] 2. The projector of claim 1 wherein the image modulator is a digital micromirror device (DMD).

[c3] 3. The projector of claim 1 wherein the gray-level image has 32 gray-levels.

[c4] 4. The projector of claim 1 wherein gray-level images are
generated for 3 colors.

[c5] 5. The projector of claim 4 wherein the 3 colors having gray-level images are red, green, and blue.

[c6] 6. A method for adjusting a projector, the projector comprising a color wheel for separating light into color light, a image modulator for modulating the color light from the color wheel, and a control circuit for controlling the image modulator to operate synchronously with the color wheel, the method comprising:
(a)providing a scalar;
(b)using the scalar to control the image modulator to display a plurality of gray-level images for at least one predetermined color on a screen; and
(c)according to the plurality of gray-level images corresponding to the predetermined color, using the control circuit to control the image modulator to operate according to rotation of the color wheel for accurately projecting an image on the screen.

[c7] 7. The method of claim 6 wherein the step (c) further

comprises using the control circuit to display an OSD (on screen display) for adjusting the color wheel delay on the screen, and via the OSD adjusting the image modulator to operate synchronously with the color wheel using the plurality of gray-level images with the predetermined color.

[c8] 8. The method of claim 6 wherein the image modulator is a digital micromirror device (DMD).

[c9] 9.The method of claim 6 wherein the gray-level image has 32 gray-levels.

[c10] 10. The method of claim 6 wherein gray-level images are generated for 3 colors.

[c11] 11. The projector of claim 10 wherein the 3 colors having gray-level images are red, green, and blue.